



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

20NR-85
Job Sheet 191517



Part No: 20NR-85

Job Qty: 8 pcs

Part Name: Lifting Bolt



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 3/4/19

Job Tracking No:

Due Date: 4/19/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG 20NR-85 Rev.C IPP Rev. A 19.02.12 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier	Sign-off
					Setup Hrs	Run Hrs		
85	Bandsaw - 1	8 pcs	4/19/19	4/19/19	0.00	0.27	Bandsaw - 1	5/1
90	QC 5	8 pcs	4/19/19	4/19/19	0.00	0.00	QC 5 - 10	
							QC 5 - 12	
							QC 5 - 17	
							QC 5 - 18	
							QC 5 - 19	
							QC 5 - 22	
							QC 5 - 24	
							QC 5 - 3	
							QC 5 - 42	
							QC 5 - 43	
							QC 5 - 49	
							QC 5 - 51	
							QC 5 - 58	
							QC 5 - 68	
							QC 5 - 9	
							QC 5 - 50	
							QC 5 - 30	
95	Outsource - 1 - Heat Treat	8 pcs	4/19/19	4/19/19			GRO002-VC	03/06/2019
100	Packaging 2-1 - Receive - B4B	8 pcs	4/19/19	4/19/19	0.00	0.00	Packaging 2 - 1 - B4B	
							Packaging 2 - 2 - B4B	
							Packaging 2 - 3 - B4B	
							Packaging 2 - 5 - B4B	
							Packaging 2 - 4 - B4B	
							Packaging 2 - 6 - B4B	
							Packaging 2 - 7 - B4B	
							Packaging 2 - 8 - B4B	
							Packaging 2 - 9 - B4B	
							Packaging 2 - 10 - B4B	
							Packaging 2 - 11 - B4B	
							Packaging 2 - 12 - B4B	



Container No: S158645



Part: 20NR-85

Job No: 191517

Serial No/Batch: S158645

Revision: C

Inspector:

Exp Date:

Instructions:

Date: 03/29/19

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

SCRAP

DAS
40
9-80

DAS
0
3-30

MAR 05 2019

MAR 29 2019



Container No: S158645



Part: 20NR-85

Job No: 191517

Serial No/Batch: S158645

Revision: C

Inspector:

Exp Date:

Instructions:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-6200
Email: sales@dartaero.com
www.dartaerospace.com

Date: 03/04/19

				Packaging 2 - 13 - B4B	
				Packaging 2 - 14 - B4B	
				Packaging 2 - 15 - B4B	
				Packaging 2 - 16 - B4B	
				Packaging 2 - 17 - B4B	
				Packaging 2 - 18 - B4B	
				Packaging 2 - 19 - B4B	
				Packaging 2 - 20 - B4B	
				Packaging 2 - 21 - B4B	
				Packaging 2 - 22 - B4B	
				Packaging 2 - 23 - B4B	
				Packaging 2 - 24 - B4B	
				Packaging 2 - 25 - B4B	
				Packaging 2 - 26 - B4B	
				Packaging 2 - 27 - B4B	
				Packaging 2 - 28 - B4B	
				Packaging 2 - 29 - B4B	
				Packaging 2 - 30 - B4B	
				Packaging 2 - 31 - B4B	
				Packaging 2 - 32 - B4B	
				Packaging 2 - 33 - B4B	
				Packaging 2 - 34 - B4B	
				Packaging 2 - 35 - B4B	
				Packaging 2 - 36 - B4B	
105 QC 6	8 pcs	4/19/19	0.00 0.00	QC 6 - 42	
<i>pzt scrip - wrong material - ban incorrect</i>				QC 6 - 9	
				QC 6 - 68	
				QC 6 - 61	
125 SL-154 - B4B	8 pcs	4/19/19	0.00 4.00	SL-154 - 1 - B4B	
130 QC 2	8 pcs	4/19/19	0.00 0.00	QC 2 - 1	
				QC 2 - 12	
				QC 2 - 14	
				QC 2 - 17	
				QC 2 - 19	
				QC 2 - 2	
				QC 2 - 20	
				QC 2 - 22	
				QC 2 - 23	
				QC 2 - 25	
				QC 2 - 32	
				QC 2 - 33	
				QC 2 - 35	
				QC 2 - 39	
				QC 2 - 4	
				QC 2 - 40	
				QC 2 - 44	
				QC 2 - 45	
				QC 2 - 48	
				QC 2 - 49	
				QC 2 - 50	
				QC 2 - 51	
				QC 2 - 52	
				QC 2 - 54	
				QC 2 - 56	
				QC 2 - 57	
				QC 2 - 62	
				QC 2 - 63	
				QC 2 - 8	
				QC 2 - 66	

135	QC 8	8 pcs	4/19/19	0.00 0.00	QC 8 - 12	
					QC 8 - 14	
					QC 8 - 17	
					QC 8 - 20	
					QC 8 - 25	
					QC 8 - 3	
					QC 8 - 32	
					QC 8 - 33	
					QC 8 - 35	
					QC 8 - 39	
					QC 8 - 4	
					QC 8 - 44	
					QC 8 - 45	
					QC 8 - 49	
					QC 8 - 58	
					QC 8 - 8	
					QC 8 - 9	
					QC 8 - 68	
					QC 8 - 67	
					QC 8 - 47	
					QC 8 - 40	
140	Outsource - 15 - Nickel Plate	8 pcs	4/19/19		GRO002-VC	
150	Packaging 2-2 - Receive - B4B	8 pcs	4/19/19	0.00 0.00	Packaging 2 - 1 - B4B	
					Packaging 2 - 2 - B4B	
					Packaging 2 - 3 - B4B	
					Packaging 2 - 5 - B4B	
					Packaging 2 - 4 - B4B	
					Packaging 2 - 6 - B4B	
					Packaging 2 - 7 - B4B	
					Packaging 2 - 8 - B4B	
					Packaging 2 - 9 - B4B	
					Packaging 2 - 10 - B4B	
					Packaging 2 - 11 - B4B	
					Packaging 2 - 12 - B4B	
					Packaging 2 - 13 - B4B	
					Packaging 2 - 14 - B4B	
					Packaging 2 - 15 - B4B	
					Packaging 2 - 16 - B4B	
					Packaging 2 - 17 - B4B	
					Packaging 2 - 18 - B4B	
					Packaging 2 - 19 - B4B	
					Packaging 2 - 20 - B4B	
					Packaging 2 - 21 - B4B	
					Packaging 2 - 22 - B4B	
					Packaging 2 - 23 - B4B	
					Packaging 2 - 24 - B4B	
					Packaging 2 - 25 - B4B	
					Packaging 2 - 26 - B4B	
					Packaging 2 - 27 - B4B	
					Packaging 2 - 28 - B4B	
					Packaging 2 - 29 - B4B	
					Packaging 2 - 30 - B4B	
					Packaging 2 - 31 - B4B	
					Packaging 2 - 32 - B4B	
					Packaging 2 - 33 - B4B	
					Packaging 2 - 34 - B4B	
					Packaging 2 - 35 - B4B	
					Packaging 2 - 36 - B4B	
160	QC 6	8 pcs	4/19/19	0.00 0.00	QC 6 - 42	

Plex 3/4/19 10:17 AM Dart.lajeunesse.marie

170 Packaging 3-1 - Stock - B4B 8 pcs	4/19/19	0.00 0.00	QC 6 - 9	
			QC 6 - 68	
			QC 6 - 61	
			Packaging 3 - 1 - B4B	
			Packaging 3 - 2 - B4B	
			Packaging 3 - 3 - B4B	
			Packaging 3 - 4 - B4B	
			Packaging 3 - 5 - B4B	
			Packaging 3 - 6 - B4B	
			Packaging 3 - 7 - B4B	
			Packaging 3 - 8 - B4B	
			Packaging 3 - 9 - B4B	
			Packaging 3 - 10 - B4B	
			Packaging 3 - 11 - B4B	
			Packaging 3 - 12 - B4B	
			Packaging 3 - 13 - B4B	
			Packaging 3 - 14 - B4B	
			Packaging 3 - 15 - B4B	
			Packaging 3 - 16 - B4B	
			Packaging 3 - 17 - B4B	
			Packaging 3 - 18 - B4B	
			Packaging 3 - 19 - B4B	
			Packaging 3 - 20 - B4B	
			Packaging 3 - 21 - B4B	
			Packaging 3 - 22 - B4B	
			Packaging 3 - 23 - B4B	
			Packaging 3 - 24 - B4B	
			Packaging 3 - 25 - B4B	
			Packaging 3 - 26 - B4B	
			Packaging 3 - 27 - B4B	
			Packaging 3 - 28 - B4B	
			Packaging 3 - 29 - B4B	
			Packaging 3 - 30 - B4B	
			Packaging 3 - 31 - B4B	
			Packaging 3 - 32 - B4B	
			Packaging 3 - 33 - B4B	
			Packaging 3 - 34 - B4B	
			Packaging 3 - 35 - B4B	
180 QC 21 - SA 8 pcs	4/19/19	0.00 0.00	QC 21 - SA - 21	
			QC 21 - SA - 70	
			QC 21 - SA - 53	

Part Op 85 - Cut blanks at 15.0" and deburr. Prepare for heat treat.

Descriptions: 95 - 1-Issue P/O; _____ RC 40-45 2-Bead blast 3--Material type; 4- Certificate of Conformity is required
 125 - 1-Machine as per folio FC 685 FOLIO REV: _____ DWG REV: _____ 2-Deburr
 140 - 1-Issue P/O; _____ -Nickel plate, QQ-N-290A, Class 2, Grade E or F -Material type; 4340 -Certificate of Conformity is required

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
M4130NR1.250 <u>MAT009 B</u>	4130N Round Bar 1.250	10 ft (1.25 ea)	85-Bandsaw - 1	<u>3010819</u>

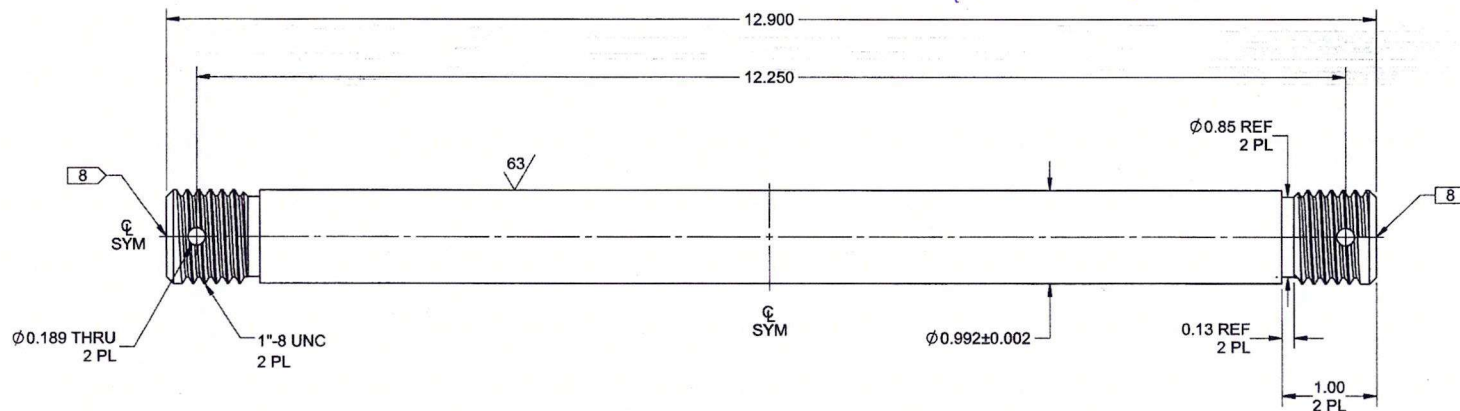
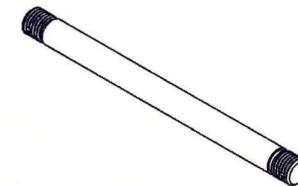
Job Allocations

Operation	Component Part	Required	Inventory	Allocated
85-Bandsaw - 1	M4130NR1.250	10	12	0

Part Specifications

Specifications could not be found.

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. ~~191005~~ M5
191517 1702-12



20NR-85 DRAW BAR FOR T-BAR

NOTES:

- 1) MATERIAL: 4340
- 2) HEAT TREAT: 40-45 Rc
- 3) FINISH: NICKEL PLATE PER MIL-C-26074 CLASS 2 GRADE B OR QQ-N-290A CLASS 2 GRADE E
- 4) TOLERANCES: X.X = +/- 0.1" / +/- 1°
X.XX = +/- 0.01" / +/- 0.5°
X.XXX = +/- 0.005" / +/- 0.1°
X.XXXX = +/- 0.0005" / +/- 0.05°
PARALLELISM, ECCENTRICITY AND SYMMETRY ABOUT ALL CENTER LINES = +/- 0.005"
- 5) UNITS: INCHES UNLESS OTHERWISE NOTED
- 6) REMOVE ALL SHARP EDGES, BURRS, AND WELD SPATTERS IF APPLICABLE
- 7) IDENTIFICATION: N/A
- 8) CENTER DRILL IS ACCEPTABLE

C	UPDATED DRAWING TEMPLATE, REDIMENSIONED PART HOLE DIM WAS 2X Ø.19 IS Ø.189 THRU 2 PL. DIM WAS Ø1.000 +0.000/-0.001 IS Ø0.992±0.002 MATERIAL CHANGE RC ADDED	19-548	KPT
2	CH'D FINISH TO NICKEL PLATE	-	JAG
1	AS DRAWN BY CANAM	-	CFS
REV.	DESCRIPTION	ECN #	BY
DESIGN	KPT	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA TOOL PART # 20NR-85 TITLE DRAWN BAR FOR T-BAR SCALE NTS	
DRAWN	KPT		
CHECKED	KPT		
MFG. APPR.	DP		
APPROVED	W		
DATE 2/12/2019		REV. C SHEET 1 OF 1 COPYRIGHT © 2019 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

Chantal Lavoie

From: Vincent Constantin <v.constantin@metcor.biz>
Sent: Thursday, March 21, 2019 2:32 PM
To: Chantal Lavoie; Vanessa Morel
Cc: Michael Lee; Dan Ionescu; Claude Beaudoin; Sorin Ionescu; Anita Dan; Alain Lemieux; Patrick Lussier
Subject: RE: Dart Po 425820, WO 334892, Low Hardness, RNC# 3025

Hi Chantal,

Ok.
Cost for the Heat-treat done on parts is 260.00\$.

Thanks,

Vincent Constantin
v.constantin@metcor.biz
Tél.: 450-473-1884 Poste 204
Fax: 450-491-6454

Métallurgiste



NADCAP, AS9100, ISO 9001 Certified
www.metcor.biz

fermeture estivale pour les vacances d'été !

Prenez note que nous serons fermés du vendredi 19 Juillet 2019 (17h00) au 05 Août 2019 (8h00)

summer shut down for vacation !

Please note that we will be closed from Friday July 19-2019 (17h00) to August 05-2019 (8h00)

De : Chantal Lavoie [mailto:clavoie@dartaero.com]

Envoyé : 21 mars 2019 13:56

À : Vincent Constantin; Vanessa Morel

Cc : Michael Lee; Dan Ionescu; Claude Beaudoin; Sorin Ionescu; Anita Dan; Alain Lemieux; Patrick Lussier

Objet : RE: Dart Po 425820, WO 334892, Low Hardness, RNC# 3025

Good afternoon Vincent,
Could you please send back the material, we have sent out the wrong one.
Please advise the cost for the heat treat.
Thanks
Chantal

From: Vincent Constantin <v.constantin@metcor.biz>

Sent: Thursday, March 21, 2019 11:38 AM

To: Chantal Lavoie <clavoie@dartaero.com>; Vanessa Morel <vmorel@dartaero.com>

Cc: Michael Lee <mlee1@dartaero.com>; Dan Ionescu <dionescu@metcor.biz>; Claude Beaudoin <claudb@metcor.biz>;

Sorin Ionescu <s.ionescu@metcor.biz>; Anita Dan <a.dan@metcor.biz>; Alain Lemieux <alainl@metcor.biz>; Patrick

Lussier <plussier@dartaero.com>

Subject: RE: Dart Po 425820, WO 334892, Low Hardness, RNC# 3025

Hi Chantal,

Yes, we are able to do it.

We need a new PO with the right material.

Also, take note that we need to process a Normalize before to re- harden & Temper parts.

Regards,

Vincent Constantin

v.constantin@metcor.biz

Tél.:450-473-1884 Poste 204

Fax: 450-491-6454

Métallurgiste



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summer shut down for vacation !

Please note that we will be closed from Friday July 19-2019 (17h00) to August 05-2019 (8h00)

De : Chantal Lavoie [mailto:clavoie@dartaero.com]

Envoyé : 21 mars 2019 11:22

À : Vincent Constantin; Vanessa Morel

Cc : Michael Lee; Dan Ionescu; Claude Beaudoin; Sorin Ionescu; Anita Dan; Alain Lemieux; Patrick Lussier

Objet : RE: Dart Po 425820, WO 334892, Low Hardness, RNC# 3025

Vincent,

Will you be able to re-work the parts at this point.

Thanks

Chantal

From: Vincent Constantin <v.constantin@metcor.biz>

Sent: Thursday, March 21, 2019 11:16 AM

To: Chantal Lavoie <clavoie@dartaero.com>; Vanessa Morel <vmorel@dartaero.com>

Cc: Michael Lee <mlee1@dartaero.com>; Dan Ionescu <dionescu@metcor.biz>; Claude Beaudoin <claudb@metcor.biz>;

Sorin Ionescu <s.ionescu@metcor.biz>; Anita Dan <a.dan@metcor.biz>; Alain Lemieux <alainl@metcor.biz>; Patrick

Lussier <plussier@dartaero.com>

Subject: RE: Dart Po 425820, WO 334892, Low Hardness, RNC# 3025

Hi Chantal,

It explain. The Po we received with parts mention 4340. See in piece attached.

Vincent Constantin

v.constantin@metcor.biz

Tél.:450-473-1884 Poste 204

Fax: 450-491-6454

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summer shut down for vacation !

Please note that we will be closed from Friday July 19-2019 (17h00) to August 05-2019 (8h00)

De : Chantal Lavoie [mailto:clavoie@dartaero.com]

Envoyé : 21 mars 2019 10:52

À : Vincent Constantin; Vanessa Morel

Cc : Michael Lee; dionescu@metcor.biz; Claude Beaudoin; Sorin Ionescu; Anita Dan; Alain Lemieux; Patrick Lussier

Objet : RE: Dart Po 425820, WO 334892, Low Hardness, RNC# 3025

Good morning Vincent,

As per our w/o for part 20NR-85, shows 4130N round bar 1.250" used.

Thanks

Chantal

From: Vincent Constantin <v.constantin@metcor.biz>

Sent: Thursday, March 21, 2019 10:46 AM

To: Chantal Lavoie <clavoie@dartaero.com>

Cc: Michael Lee <mlee1@dartaero.com>; dionescu@metcor.biz; Claude Beaudoin <claudb@metcor.biz>; Sorin Ionescu <s.ionescu@metcor.biz>; Anita Dan <a.dan@metcor.biz>; Alain Lemieux <alainl@metcor.biz>

Subject: Dart Po 425820, WO 334892, Low Hardness, RNC# 3025

Importance: High

Hello Chantal,

After heat-treat, we obtained hardness test result lower than specified, 28-30 HRC (requirement: 40-45 HRC). See RNC report in piece attached.

Wrong material is a possible cause.

Please look at that and tell me what you want to do.

Thank you,

Vincent Constantin

v.constantin@metcor.biz

Tél.: 450-473-1884 Poste 204

Fax: 450-491-6454

Métallurgiste



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fermeture estivale pour les vacances d'été !

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Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO042820



Supplier: MEI001-VC
Metcor Inc.
560 Boul. Arthur Sauve
Saint-Eustache
QC
J7R 5A8 Canada
Phone: 450 473 1884
Fax: 450 491 5498

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO042820

PO Date: 3/6/19

Due Date: 3/22/19

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com

Via: Ground

Pynt Terms: Net 30

Freight Terms:

Special Comments: parts will be scrap at QC,
wrong mat'l was send to Metcor due w/o bom
did pull the right mat'l.

E-MAILED
MAR 22 2019

Items

Line Item	Job	Part	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	191517	20NR-85	Lifting Bolt 1-Issue P/O; RC 40-45 2-Bead blast 3--Material type; 4- Certificate of Conformity is required 5- mat'l used for part is 4340 round bar	Firmed	-	3/27/19	9 pcs	0 pcs	9 pcs	\$28.88888/pcs	\$260.00
Grand Total:											\$260.00



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER

PO042820



Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)

A022 Apical Processing
A024 process certifications
A026 certification of material conformance

A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 3/22/19 8:11 AM dart.lavoie.chantal

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ
ST-EUSTACHE, QC J7R 5A8
Tel: 450-473-1884 / Fax: 450-491-5498

Reçu de livraison

Delivery Receipt

BON DE TRAVAIL Order	EXPÉDITEUR Shipper ID	BON D'EXPÉDITION Shipper
334892	1	135739

EXPÉDITION COMPLÈTE / Shipped Complete

CLIENT /Customer 215

DART AEROSPACE

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053



LIVRÉ À /Shipped To

DART AEROSPACE

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
Ph: 613-632-5200
Fax: 613-632-1053

COMMANDE DU CLIENT Customer PO	BON DE LIVRAISON DU CLIENT Customer Shipper No.	TYPE DE MATÉRIEL Material Type	DATE DE LA COMMANDE Order Date	TRANSPORTEUR Carrier
42820		4340	2019/3/13	fed

QUANTITÉ Quantity	No. PIÈCE Part No.	NOM DE LA PIÈCE Part Name	DESCRIPTION DE LA PIÈCE Part Description	POIDS Weight
9	20NR-85	(9) 20NR-85	JOB 191517	47,

1 BOITE DE CARTON

TYPE DE CONTENEUR Container Type	# DE CONTENEURS # Of Containers	COMMENTAIRES CONTENEUR Container Comments
BOITE DE CARTON	1	

CERTIFICAT

EXPÉDIÉ PAR: Shipped by:	
-----------------------------	--

QUANTITÉ EXPÉDIÉE / Quantity Shipped : 9

POIDS EXPÉDIÉ / Weight Shipped : 47,00

QUANTITÉ RESTANTE / Quantity Remaining : 0

POIDS RESTANT / Weight Remaining : 0,00

APPROUVÉ

CERTIFICAT

QUANTITÉ EXPÉDIÉE / Quantity Shipped : 9

POIDS EXPÉDIÉ / Weight Shipped : 47,00

Signature:

Date:

EXPÉDIÉ LE / Shipped On : 2019/03/22

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité

Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
334892	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
42820	N/A	4340		

SPÉCIFICATIONS DU PROCÉDÉ

processing specifications

SEL HARDEN

HARDEN AND TEMPER

EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results
HARDNESS	40 - 45 HRC	9	28 - 30 HRC

QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description
0	47	20NR-85 (9) 20NR-85 JOB 191517 1 BOITE DE CARTON

COMMENTAIRES / comments

APPROUVÉ

APPROUVÉ par / Approved by:

DATE

"ATTENTION QUALITY"
REJETE / REJECT

MITTACOR INC.

500 ROUTE ANTHUR-SAVIE, STELLA-ROCHE, Q.C. J2B 8Z8

Tél: 450-451-1894

Télécopieur: 450-451-1895

Télécopieur: 450-451-1896

Certificat de Conformité

Certificat de Conformité

BON DE TRAVAIL CHANGEMENT

1988

1988

1

1988

1988

1988

1988

1988

1988

1988

1988

1988

QUANTITÉ	CLASSIFICATION	PIÈCE	DATE	PROG
1	1	1	1	1

SPÉCIFICATIONS EN PROCEDE

processus de fabrication

1988

1988

EXPOSE: description des travaux effectués / personnel: 1988-1989

QUANTITÉ	PIÈCE	DESCRIPTION DES PIÈCES
1	1	1
1	1	1
1	1	1
1	1	1

COMMENTAIRES / commentaires

APPROUVÉ par: 1988

DATE: 1988

1988

METCOR INC.

560 BOUL. ARTHUR-SAUVÉ, ST-EUSTACHE, QC, J7R 5A8

Tél.: 450-473-1884

Télécopieur / Fax administration: 450-491-5498

Télécopieur / Fax production: 450 491-6454

Certificat de Conformité Détaillé

Detailed Certificate of Compliance

BON DE TRAVAIL order	CHARGEMENT load
334892	1

CLIENT / customer 215

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

LIVRÉ À / shipped to:

DART AEROSPACE

1270 ABERDEEN

HAWKESBURY

ON K6A 1K7

1

COMMANDE DU CLIENT customer po	CLASSIFICATION PIECE part classification	MATÉRIEL material	MAÎTRE D'OEUVRE prime contractor	PROGRAM
42820	N/A	4340		
SPÉCIFICATIONS DU PROCÉDÉ processing specifications				
SEL HARDEN				
HARDEN AND TEMPER				
EXIGENCE / requirement	SPÉCIFICATIONS / specified	TESTS EXÉCUTÉS / performed	RÉSULTATS DE TESTS / results	
HARDNESS	40 - 45 HRC	9	28 - 30 HRC	
		908		
QUANTITÉ quantity	POIDS weight	DESCRIPTION DES PIÈCES parts description		
9	47	20NR-85 (9) 20NR-85 JOB 191517 1 BOITE DE CARTON		

COMMENTAIRES / comments

PARTS REJECTED REF #RNC 3025

SALT HARDEN 1525F 50 MINS

SNAP TEMPER 400F 2:00 HRS

TEMPER 750F 3:00 HRS

Heat treatment (HT) was performed with equipment that meets the requirements of requested specification.

All HT operations were performed in compliance with the required HT specification and all verifications have been performed and documented. No unauthorized changes were performed in regards to the HT. We certify that the material was manufactured, sampled, tested and inspected in accordance with the material specification and the purchase order and was found to meet the requirements.

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Le traitement thermique (TT) a été fait en utilisant des équipements en conformité avec la spécification demandée.

Toutes les opérations de TT ont été faites en conformité avec les requis de la spécification demandée et toutes les

vérifications et les tests demandés ont été faites et documentés. Aucun changement n'a été faite par rapport au TT. On

certifie que le matériel a été fabriqué, échantillonné, testé et inspecté en accord avec les spécifications du matériel et le bon

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de commande et le matériel rencontre les exigences spécifiées.

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APPROUVÉ par / Approved by:

DATE: 2019-03-22

Lucie Desmarais
QA Technician



Entered: _____ Date: _____



WORK ORDER NON-CONFORMANCE / ROUTE UPDATE

NCR No. _____

Route update only ☐

Job: <u>191517</u> Part No. <u>20NR-85</u>		DISPOSITION Rework ☐ Scrap ☒ Use-as-is ☐		DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Eng. (Non-AW) ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Engineering ☐ Water Jet ☐ Supplier ☒ Quality ☐				
Date : <u>19-03-29</u>		Sequence #: <u>105 QCG</u>		QTY Affected : <u>9/9</u>		MRB (QS1042)		
Description Work Order Deviation				Disposition				
<u>- MAT'L SUPPLIED TO BE HEAT TREATED WAS 4340. 4130 WAS THE PROPER GRADE. HARDNESS OF 40-45 HRC WAS NOT POSSIBLE.</u>				<u>SCRAP</u>				<u>PD 19-04-15</u> Completed By <u>DAS 68 9-89</u> APR 15 2019
								Lead hand / Supervisor
								QC / QA Coordinator <u>DAS 68 9-89</u> APR 15 2019
Root Cause Operator ☐ Manufacturing Process ☐ Equip/Tooling ☐ Handling/Presservation ☐ Material ☐ Product Improvement ☐ Process Improvement ☐ Human Factors ☐		FAULT CATEGORY ☐ Pressure/Forced ☐ Bending ☐ Crushing ☐ Cracks ☐ Crimp/Kink/Ripple/Wave/Twist ☐ Marks/Chatter ☐ Mislabeled ☐ Contamination ☐ Misaligned/off center ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Incomplete/Unclear Instructions ☐ Drill Holes ☐ Fit/Function ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain Direction ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set/Set-up ☐ Positioned Wrong ☐ Outside Tolerance ☐ Drawing ☐ Finish ☐ Part Lost/Missing ☐ Misread						
Other/Details:								